

Application No.: 10/531,112
Amendment Dated: November 8, 2006
Reply to Final Office Action of: September 8, 2006

MAT-8681US

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Claims 1 and 3-10 are pending in the above-identified application. Claim 2 was cancelled.

Claims 1, 3 and 5-10 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Dent and Lei et al. This ground for rejection is respectfully traversed. Neither Dent, Lei et al., nor their combination disclose or suggest the features of claim 1, namely,

... wherein the vector control means produces the plurality of N dimensional vectors based on a propagation parameter corresponding to a propagation channel between the first radio station and the second radio station independent of other propagation channels... (Emphasis added).

In the Office Action, the Examiner stated that Dent fails to teach these features. (Page 3, lines 11-14). The Examiner asserted that Lei et al. does teach these features, specifically referring to equations 3 and 4 at col. 3, lines 9-62. Both equations 3 and 4 of Lei et al. include variables alpha 1 and alpha 2, which are the respective channel coefficients 116. (Col. 3, lines 30-39). As shown at Fig. 1 of Lei et al., signals are transmitted between the transmitting antenna 102 and the receiving antenna 112. The signals are, however, transmitted along separate propagation channels with respective channel coefficients 116. According to an exemplary embodiment of Applicant's invention, a plurality of N dimensional vectors are transmitted between a first radio station and a second radio station. The plurality of N dimensional vectors are, however, based on a propagation parameter corresponding to a propagation channel and independent of other propagation channels. Applicant's claimed feature of transmitting N dimensional vectors based on a propagation parameter corresponding to a propagation channel and independent of other propagation channels is advantageous over the prior art

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because a vector may be received at a second radio station by highly correlating the vector to the propagation parameter and other vectors may be cancelled by having a lower correlation to the propagation parameter. (Page 14, lines 3-17).

Because neither Dent, Lei et al., nor their combination disclose or suggest the features of claim 1, claim 1 is not subject to rejection under 35 U.S.C. § 103(a) in view of Dent and Lei et al. Claims 3, 5-7 and 10 depend from claim 1. Accordingly, claims 3, 5-7 and 10 are also not subject to rejection under 35 U.S.C. § 103(a) in view of Dent and Lei et al.

During a telephone interview with the Examiner, the differences between claim 1 and the prior art were discussed. In particular, the term "independent" and why this term distinguishes over the prior art was discussed. The Examiner indicated that claim 1 appears to overcome the rejection for the reasons described above. The Examiner also indicated, however, that a decision could not be made until a formal response was filed.

Claim 8, while not identical to claim 1, includes features similar to those set forth above with regard to claim 1. Thus, claim 8 is also allowable over the art of record for reasons similar to those set forth above with regard to claim 1. Claim 9 depends from claim 8. Accordingly, claim 9 is also allowable over the art of record.

Claim 4 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over Dent, Lei et al. and Ramesh. Dent and Lei et al. are described above. Ramesh teaches methods and systems which calculate a carrier to interference ratio of a channel using an approach which accounts for variations in the channel response characteristics over the estimation evaluation time period. Ramesh does not disclose or suggest transmitting N dimensional vectors based on a propagation parameter corresponding to a propagation channel and independent of other propagation

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channels, as recited by claim 1. Claim 4 depends from claim 1. Accordingly, claim 4 is also allowable over the art of record for at least the same reasons as claim 1.

In view of the foregoing amendments and remarks, this Application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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